

## Unit-7.3 ~~Depreciation~~ Depreciation -

"It is the loss in the value of the property due to its use life, wear, tear, and decay."

The value of a building will be gradually reduced due to its use, life wear and tear etc, and a certain percentage of total cost may be allowed as depreciation to find its present value. Usually a percentage of depreciation per year is allowed.

## Obsolescence -

The value of property <sup>or structures</sup> become less by its becoming ~~of~~ out of date in style, in structure in design, etc. and this is termed as obsolescence.

The obsolescence may be due to the reasons such as progress in art, design, change in ~~season~~ fashions, change in planning ~~and~~ ideas, new design technique.



## Sinking Fund -

"The fund which is gradually accumulated by way of periodic or annual deposits for the replacement of the building/structure at the end of its useful life, is termed as Sinking fund."

The calculation of sinking fund depends on the life of the building/structure and scrap value of the building/structure for the cost of old materials. The cost of land is not taken into account in ~~calc~~ calculating.

Sinking fund as land remains intact.

Sinking fund ~~to be~~ <sup>may</sup> be found out by the formula -

$$I = \frac{S_i}{(1+i)^n - 1}$$

where,  $S_i$  = amount of sinking fund

$i$  = rate of interest in decimal (e.g. 5% = 0.05)

$n$  = no. of years required to accumulate the sinking fund

$I$  = annual instalment required.

Ex A pumping set with a motor has been installed in a building at a cost of Rs 50,000. Assuming the life of the pump as 15 years, work out the amount of annual instalment of sinking fund required to be deposited to accumulate the whole amount of 4% compound interest.

Sol<sup>n</sup>

$$S = 50,000, \quad i = 4\% = 0.04$$

$$n = 15 \text{ years}$$

The amount of <sup>annual</sup> sinking fund,

$$I = \frac{Si}{(1+i)^n - 1}$$

$$= \frac{50000 \times 0.04}{(1+0.04)^{15} - 1}$$

$$= \frac{2000}{0.8}$$

$$= \text{Rs } 2500$$

The owner is to deposit Rs 2500 annually in Rs 4% compound interest carrying investment for 15 years accumulate Rs 50,000



Ex 2 An old building has been purchased by a person at a cost of 3,00,000/- excluding the cost of the land. Calculate the amount of annual sinking fund at 4% interest assuming the future life of the building as 20 years and the scrap value of the building as 10% of the cost of purchase.

Sol<sup>n</sup> The total amount of sinking fund to be accumulated at the end of 20 years

$$S = 300000 \times \frac{90}{100} = 270000/-$$

Annual instalment of sinking fund,

$$I = \frac{Si}{(1+i)^n - 1} = \frac{270000 \times 0.04}{(1+0.04)^{20} - 1}$$

$$= \frac{10800}{1.191} = 9068/-$$

Annual instalment for sinking fund required for 20 years

$$= \text{Rs } 9068/-$$